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THE ILLINOIS SCHOOLMASTER, *Illinois.*
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THE SCHOOL, *Michigan.*
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Editorial.

IF there be any one truth more than another which, from the first, the WEEKLY has aimed to emphasize, it is that *the teacher should become the leader and guide in the great work of educational reform and progress;* that he should come to the front, make himself master of his profession in all its bearings, and assert his capability and his right not only to govern his little kingdom within the walls of the school-room, but to form, and in a proper sense, to control public sentiment in all that relates to the welfare and advancement of universal education. We have in terms insisted that he should have a potent influence in shaping school legislation; that he should be judged by, and should become the judge of his peers; that he alone should occupy the high places of trust and executive duty in the system, and that until this policy shall become generally operative we shall fail to realize those great results in education that the necessities of the age and the people so imperatively demand. These truths on reflection will appear so evident, we think, that no argument ought to be required to enforce them; for *it is the simple assertion of a principle that controls in all other professions.* It is the assertion of the principle that those who make their calling or employment the object of their exclusive study and effort, best comprehend its needs, and are best qualified to discharge the duties it demands.

We hold, too, that the most important function that society has to perform is the training and preparation of its successive rising generations for the duties of a useful and honorable citizenship. This is really the sum of all its obligations, since it may be said in a large sense to include all others. Every child once wisely and thoroughly taught and trained is almost certain to become a good man, neighbor, and citizen. Good citizens will be self-governed and there will be little for the machinery of government to do beyond the performance of its routine functions. But, again, this work of educating the whole people is a vast, difficult, and delicate undertaking. It demands the intelligence, the skill, and the wisdom in all the details of its conception and execution, *which only exclusive study, devotion, and effort can give.* Vague general notions gathered up from a casual and superficial observation, or from mere reading amid the pressure of other avocations, are totally insufficient to qualify an educational officer of any rank, from state superintendent to school director in a country district. Neither a superficial nor even a thorough knowledge of certain branches of study can suffice to make a truly successful teacher. Utter ignorance of everything pertaining to common schools, except their existence and name, cannot make a wise legislator upon school questions by whatever majority the candidate may have been elected. It is a fatal mistake to assume that because a man has been elected or appointed to an educational office by the present methods, he is therefore fitted for the position. Unfortunately, there are too many presumptions that the facts are all the other way.

Beyond all other interests, we affirm that *those which look to the creation and conservation of intelligence, wisdom, and civilization* should themselves be guided, controlled, and managed throughout by the highest intelligence and the most consummate skill and wisdom. To place an ignorant, inexperienced, and untrained teacher in charge of any school is to sap the very foundations of usefulness in that school. To place a school system, or any part thereof, in the hands of those who have not an intimate and practical acquaintance with all its details and with the grand objects it is designed to subserve, is to court disaster and defeat from the beginning. Hence it is indispensable that a large class of persons should be set apart, trained, and prepared by special instruction, observation, and experience to guide and control the educational movement, if success is to crown the efforts put forth in its behalf. The relation of cause and effect can never be more intimate and imperative than in the case which demands that *intelligence and wisdom can alone be relied upon to produce intelligence and wisdom.* Intelligence is not born of ignorance any more than grapes are gathered from thorns or figs from thistles. The most learned of all learned professions should be that whose business it is to promote learning, to instruct, elevate, and form the characters of men. The teachers of the race should be among the leaders of the race. Educators should construct and operate all parts of the educational machinery. They should shape legislation is this direction. They should become superintendents and directors of schools. They should leaven the school boards. They should pass upon the qualifications of their professional brethren and test the quality of their work. They should, in brief, be abundantly able to deal with every phase of the great problem of education, whether in its external policy or internal economy, and carry it through to a successful solution.

It is time for all teachers to recognize the fact that there are higher questions than those which pertain to the details of the school-room. It is important to know the best methods of teaching and governing, of preventing irregularities and promoting parental coöperation. But it is quite as important to comprehend the relations of education to the national welfare, to know how to secure judicious legislation, to understand the bearings of supervision and special training, to grade the parts of a school system, to compare one syst

determine what defects exist and what remedies to apply in given cases. In truth, the study of these higher problems by teachers generally would increase their capacity to deal with the minor ones that relate to the details of management and discipline. There is no greater curse among teachers than narrow-mindedness. There is no more beneficent blessing than broad and liberal studies, with a disposition to grapple with those immutable principles that inspire the mind and make the possessor capable of mingling in great affairs conducted by able men. We rejoice to see indications of a general awakening to the importance of these truths, and hail them as harbingers of a good time coming. At the recent meeting of the Connecticut State Teachers' Association, says *The New England Journal of Education:*

"A spirit of self-assertion of the teachers' rights and prerogatives showed itself, and its uplifted voice was heard in the resolutions which were adopted, in which we find the declaration of these principles:

"'1. The necessity of progressive measures in the public school organization.

"'2. That teachers are in a position collectively to ascertain and realize, more than any individual or any legislative body, the deficiencies of the present system.

"'3. That the Association, in the absence of any well-defined policy for an improved condition of school organization, should examine into systems and methods for local and state work, and should make its efforts felt in guiding public opinion in educational affairs.

"'4. The voice of the teacher should be heard in the educational legislation of the state.

"'5. The study of measures and methods should be assigned to the members of the Association to report upon, and that a committee be appointed to confer with the Board of Education, and the Committee of Education of the State Legislature, on all matters pertaining to the interests of education in the state.

"'6. The County Teachers' Associations and school officers' conventions should be held in the several counties of the state, for the purpose of discussion, conference, and the better prosecution of work, and a greater uniformity of action.'"

It is a matter of sincere congratulation that the seeds sown by the WEEKLY, as the earnest champion of "the teachers' rights and prerogatives" have begun to bear their legitimate fruits. And now let other associations and educational bodies speak out and follow their utterances with intelligent action, and a new era will arise in the educational history of the republic. Politicians and pretenders of every sort will be sent to the rear, and educators will be generally recognized as the fittest persons to guide the educational work.

POLITICS IN SCHOOLS.

JUST as soon as the minds of his pupils become fitted for abstract thought and metaphysical reasoning, it is the duty of the teacher to instill into their minds some knowledge of that science which treats of the relations and duties of men to each other. Boys and girls should be taught politics just so far as to inform them of the virtues and vices of men upon themselves and society. They should be taught that they live under a republican form of government, and that this American republic has peculiarities which distinguish it from every other republic or government of any kind under the sun. They should be taught that they are Americans, and there should be something in the instruction imparted in the schools, which is distinctively American. It is not enough to give our nineteenth-century children—our Amer[illegible]ren—the same kind of instruction in the [illegible]d according to the same formulæ as [illegible]es past. We are Americans, and as Americans we are a very different people from the English, or the French, or the Germans. But in how many of our schools is this difference taught to those who are soon to maintain the distinction to our credit or ignore it to our detriment as a nation? What are our children taught of the great duty and privilege which is made universal (among men) in America—that of voting? How are they to determine the nature of their vote—by experience? Alas! too many experimental votes are now cast at our elections, and the vital interests of the country are daily suffering on account of this very lack of intelligent voting. Our schools should make a statesman of every boy who enters them, and a stateswoman, or something of the kind, of every girl. How can the state afford to maintain public schools at such an enormous expense, if it meets no return in cultivated statesmanship? The maintenance of the schools is a public economy, but how can the state afford to neglect the political education of her children in the very schools which she establishes to sustain the intelligence of the poeple? The study of civil government, then, is of much greater importance than the study of Greek, and Latin, and higher mathematics.

The argument for the study of American civil government is thus put by the Regents of the University of the State of New York:

"A general knowledge of these latter subjects would certainly reward the student with much greater benefits in after life than anything to be obtained from the study of Grecian or Roman antiquities. Yet it not unfrequently happens that scholars who spend quarter after quarter in the study of these antiquities, and who are familiar with all their minutiæ, can hardly answer any of the most important questions on our constitutional law and practical civil jurisprudence. The antiquated constitutions, laws, manners, and customs of Greece and Rome are made subjects of regular study in several of our academies, while the study of the living, practical subjects of our own constitutional law, and the every-day occurring principles of our civil jurisprudence, is not admitted as a part of the academic course!"

If there were a more just and proper time devoted to the study of political economy in our public schools, we would be saved the ridiculous blunders which are so frequently made by men in official positions, and the mortification of certain most ridiculous speeches which are made in Congress. "Reform" would not be a matter so difficult to attain, for there would be less dispute as to the best methods and means to secure it.

Let the teacher, therefore, aim to become informed on these subjects himself, and then to educate his pupils according to his ability, if not by authority and direction of the board of education, then by virtue of his own good sense, and the authority imposed in him of exercising a certain amount of his own judgment in the conduct of his school. Let him teach the childern the ranks and offices of their intellectual and bodily powers in their various adaptations to art, science, and industry; let him teach them to understand the proper offices of art, science, and labor themselves, as well as the foundation of jurisprudence and the broad principles of commerce, at the same time inculcating a practical knowledge of the present state and wants of mankind. Of course not all of this can be taught to school children, but enough of it to enable any individual to act wisely in any station in life. Beyond this should be taught the impossibility of equality among men, and the good which arises from their inequality; the law of compensation which harmonizes the circumstances of different states and fortunes, the dignity which accompanies every vocation or position in society, however humble, provided only its occupant is worthily

filling his appointed place; the proper relations between the poor and the rich, the governor and the governed; the nature of wealth and the mode of its circulation; the difference between productive and unproductive labor; the relation of the products of the mind and hand; the true value of works of the higher arts and the possible amount of their production; in short, the meaning of civilization, the advantages and dangers which may arise from it, and the true meaning of the term "refinement"—that it is possible to possess refinement in a low station and lose it in a high one. By all means should every young man or woman, before leaving the school and entering into the active world, be taught the significance of almost every act of daily life, in its ultimate operation upon the actor and others. W.

CHAPTERS IN SCHOOL ECONOMY.

SCHOOL RECORDS.—I.

Prof. H. B. Buckham, Buffalo, N. Y.

I PROPOSE to take up next the subject of School Records. These questions will be briefly discussed: 1. Of what should record be made, if made at all? 2. For what purpose should such record be made? 3. How may it be made? 4. What use is to be made of it?

What I have to say on these points will be meant, with modifications, for all schools, graded and ungraded. The same general principles which determine what is best in the first are also applicable to the second; the manner and the extent of application will depend in part on circumstances. All school work is sufficiently similar to admit of the same general treatment, whether the classes in any given school be large or small, whether there be only one teacher or more than one; whether or not there is a prescribed course of study, and whether the school continue through the year or for three months only. 1. Of what should record be made, if made at all? I divide this into the two questions involved.

(*a*) A record is an account of transactions; either in substance or in detail, it represents what has been done. The transactions of school are of two sorts: all that pertains to study and lessons, or intellectual exercises, which are presented as results in recitations; and all that involves moral action, which is presented as results in behavior. These two include all the actions of schools as schools, and of one or both of these a record is to be made; and if of either, there is no reason that it should not be of both. Recitations and deportment are the data on which the standing of the pupil is determined, whether that standing be only an estimate formed in the teacher's own mind and never given to any one else, or whether it be put in some form into a book of records or into some published report. The record, if made, reports the teacher's judgment of the pupil in these two factors, the lessons he recites and his conduct while within the jurisdiction of the school. The questions asked are, how good—that is, how near to perfection—are your recitations, and how good—that is, how near to what it can and ought to be is your conduct?

So far, this seems an easy question to settle, but it is really and seriously complicated by another, viz: should this be a record of results or of efforts? The lesson is ten problems in arithmetic; Willie has done them all correctly; his lesson, as a lesson, is perfect and he is entitled to a perfect mark. Johnnie has worked twice as long over his problems and has succeeded with five; is he entitled to half a mark only? I suppose him to have done his very best; he has spent all the time he ought to have spent; he has honestly tried to solve all the problems, but they were really beyond his power in the given time, and what he has, cost him twice as much as Willie's perfect lesson The question is what shall be his credit for this half lesson, hardly and conscientiously learned. Willie is fairly entitled to his perfect mark, for he has done all that was required; Johnnie with a greater effort has done all he could, which was only half what was required. There can be as little question which is more meritorious as there can whose lesson is best; effort, and not success, is the real test of merit; the boy or the man who perseveringly and cheerfully and under difficulties and embarrassments not of his own making does his best, does more nobly than he to whom all things "come easy," and who, compared with the other, masters his lesson at sight, though his attainments, compared with the other's, are meager. It seems to me that Johnnie is entitled to a half mark for his lesson and to a perfect mark for his effort. If the record is to be for results only, the "smart" boys get all the honors, while the faithful, hard-workers, who perhaps can get no assistance or even encouragement at home, stand low and feel all the sting of such standing, though conscious of having done their best. I am supposing, of course, that Willie would not struggle as Johnnie does, and that if his problems in arithmetic cost him hard labor, he would flinch and fail. Here, then, are two factors; effort and result. Shall I recognize only the latter? I see no other way so far as outward distinction in school goes, the head of the class, medals, etc.; but the other, as one of the most honorable and promising elements of character, should not fail of certain and high commendation. But here is the difficulty; I can judge of results with sufficient accuracy, because results are all presented for my inspection; of efforts, I can form only imperfect judgment as it comes, incidentelly, to my knowledge. And because of my inability to judge, at all times, and fairly, of the most important of the two factors, I have hesitated many times about keeping any record; and when I have read a published or even recorded result, I have often mentally put the first in a lower rank and some of the lowest up near the first, and I have not unfrequently said in public or in private that the highest do not stand first in my estimation. I anticipate a protest from many against this doctrine, and hear them saying that you cannot record anything but lessons, and it is none of your business, in one aspect, at least, how much or how little the lessons may cost the pupil, as you are not punishing the slow and plodding, but only rewarding quickness of intellect exerted with reasonable fidelity. I rejoin that effort does not always appear to its full value in what children accomplish, and that this is more important and more hopeful of good results in the future than immediate and easy success.

This may be more evident if we consider conduct in the same light. Willie, again, comes from a well-governed, happy family. The obedience and the good conduct required at school are rather below than above what is required at home. He is accustomed to respect of superiors, to doing without grumbling what is asked, to returning good-will for good-will, and his parents enjoin good behavior at school. He, as a matter of course, complies with school regulations, and finds it, comparatively, very easy to deserve a good record for deportment without being either a premature little old man, or a deceitful time-server. Johnnie has no good training at home; the family is rough, noisy, and disorderly; school is to him far above what is required in any other place; he finds it difficult to conform himself to school order because all his notions of obedience, propriety, and respect are inferior to those of the teacher. The first, almost without effort, quite without any more severe effort than he is accustomed to elsewhere, deserves a good mark for conduct; the second tries in his undisciplined, rude way to do as he is told when he is not under special temptation to do otherwise, and does not, judged simply by his manifest deeds, deserve more than half a mark, sometimes none at all. Shall the difference in the circumstances and consequently in the moral condition of the two boys give a different value to their conduct and a different standard of judgment? Shall the one to whom obedience is already a habit, if not a principle, and the one who scarcely knows what it is to obey be judged alike, or should the one who knows best be judged by the most rigid standard? But here is a code of regulations, written or unwritten, forbidding whispering, enjoining quiet, prescribing how to walk and how to stand, and when to ask questions, all of which is proper and necessary; Willie, day after day, can report perfect obedience to the whole law, and in all that pertains to good conduct outside of school regulations the teacher finds him without fault; all this he does instinctively and cheerfully, as a result of home-training and a natural bias toward obedience and order. His conduct, judged by all that appears, is beyond comparison better than Willie's, who breaks every rule every day, and in things outside of rule is as thoughtless and ignorant as a barbarian. Willie is a better boy than Johnnie, and still Johnnie's always uncertain and generally indifferent behavior represents a greater effort, more resistance of temptation, more sacrifice of what he would like and is accustomed to, than Willie's. The question *with me* is how to do both boys exact justice; how to give the good boy his full credit, and at the same time to recognize the far greater difficulty of the other boy's being only half as good. If school were to be a place of rewards and punishments simply, I should know what to do; but if it is to be a place of education—if those boys are to be trained to correct habits for all future life, if the *influence* of school as well as its precepts is to be in the direction of right conduct and habits, then I must take into the account all the circumstances of the case, and while my judgment may be weak, it must be both charitable and circumspect.

I have answered by implication the second p[ortion] cussion of the first, and the whole will appear sion of the second question.

(*b*) Shall school records be made? On the whole, *yes*, but with a much more serious view of their significance and influence than is often entertained, and with constant reference to the end to be reached. What shall they record? Lessons as recited and conduct as manifestly conformed to requirements as one thing, and effort made and temptations and impulses resisted as another element or a second record. If any say this last is beyond the ordinary teachers observation, I answer that *all* school work and all dealing with children are beyond any but the best capacity, and no part of it should be committed to any but the chosen few.

THE RURAL DISTRICT SCHOOLS.—I.

J. W. WRIGHT, Belleflower, Ill.

I MET an intelligent gentleman on one of my tours through McLean county last summer, to whom I broached the school question. Soon learning that he occupied the position of school trustee, having previously served as director for several terms together, I asked concerning the condition of the schools in his town.

"Oh, I really don't know much about it," he replied; "I was elected to this office only last spring."

"Well, how about your own district in which you served as director for so many years?" queried I.

I really do not know, sir," he answered, "I have no children of my own to send, and while I was director I was always too busy to visit the school."

I then told him, half apologetically for what was to follow, that I was a teacher. I then said: "Teachers and school officers are largely to blame for the bad condition of our country schools, for when anything is said on the subject it is always in their praise, whatever be their real condition, or, if the speaker be conscientious, he prefers to be silent rather than admit the defects of his school. Sir, I honestly declare to you that had I children of my own I should not send them, under any circumstances, to the district schools, for, not to mention the morals, the habits the children are forming, by the help of the average country school, are simply pernicious."

He looked at me attentively a moment, then said: "What you have just said agrees with what has been my convictions concerning these schools, for years, and my wife and I agreed, long ago," he continued, looking away from me across the fields, "never to send our little Nellie, had she lived. But it's scarcely safe now-a-days to say anything, except in favor of the common schools," and here he looked in my face.

Now, the gentleman expressed the whole truth of the matter, for he meant, by the "common schools," the laws relating to them, the methods of teaching in them, the manner (or, rather, *manners*, for they are as various as the shades of light) of conducting them, and the influences they are exerting over the masses of our youth.

Away with the mistaken love for these schools which leads a man to applaud the most transparent frauds and worst kind of evils simply because they show their ugly visages within the sacred precincts of these humble places of learning! Away with the foolish pride, or inexcusable ignorance, that prompts a teacher or a school-officer to tell the patrons of a district, "Your school is doing splendid work; things could not be in a more flourishing condition," when it is perfectly apparent that each lesson studied and recited is only another lesson which leads to slovenly house-keeping and careless, bankrupt farming; which never awakens a desire to improve, to be better; which never leads to a close observation of things, to a love of good reading, to an intelligent appreciation of the good, the beautiful, and the true, and to the critical examination of self and of others in relation to the problem of life, and all the varied experiences connected thereto; but which, on the contrary, blunts the faculties, deadens the susceptibilities, darkens the perceptions, and renders those concerned utterly unfit and incompetent in many of the essentials, to discharge the multiplied duties of this wonderfully real, and actively busy life of ours. The time is now come when something should be done—something may be done for the country schools. But the work, to be of utility, must begin at the foundation, which is the laws. There is now a year for the teachers of Illinois to make preparations for the meeting of our next Legislature, when something in earnest should be done. Let the first thing be the reducing of the petty school officers. Why, by actual count, there were 723 school directors in McLean county in 1874, some of whom, to my personal knowledge, [illegible]*write*. What an army of incompetents! Two hundred [illegible]st be elected each year, at a cost, in time, of $984.50 [illegible]the clerk and two judges, who *must* be there, attend the election; for they will hardly fail to count their time worth $1.50 per day each.

Let the aim be *uniformity of work, uniformity of results, uniformity of books, uniformity of tasks, uniformity of spirit, and uniformity of support*, in the schools of the township, of the county, and of the state.

It is foolish longer to talk about making these needed reforms by educating the people up to the point. The *people* know nothing about the schools, for they never visit them with a view of knowing what their children are doing during all those precious days, months, and years of school-life.

A teacher is employed and put in the school, and that ends their anxiety, unless a "rumpus" is "kicked up" by some rude boy bent on having his own way, or by some pert miss who has been "off to school"; or unless the teacher is so grossly negligent as to attract the notice even of the scholars.

QUESTIONS SUGGESTED BY A VISITING TOUR.

IS it best for a visitor to knock before entering a school-room?

2. Is it important that a visitor should have a book handed him in order that he may "look on?"

3. Is self-reliance and independence cultivated by written reviews and written examinations?

4. Are not written examinations becoming burdensome on account of frequency?

5. Should we allow the Unabridged Dictionary to be used in different parts of the room, or should it be kept in one stated place?

6. Is it advisable to have a reading table in the high school room upon which may be found the daily paper and educational journals? A. H. P.

SCHOOL STATISTICS.

'TWAS Saturday night and a teacher sat
Alone, her task pursuing;
She averaged this and she averaged that
Of all that her class were doing;
She reckoned percentage, so many boys,
And so many girls all counted,
And marked all the tardy and absentees,
And to what all the absence amounted.

Names and residence wrote in full,
Over many columns and pages;
Yankee, Teutonic, African, Celt,
And averaged all their ages,
The date of admission of every one,
And cases of flagellation,
And prepared a list of the graduates
For the coming examination.

Her weary head sank low on her book,
And her weary heart still lower,
For some of the pupils had little brain,
And she could not furnish more.
She slept, she dreamed; it seemed she died,
And her spirit went to Hades,
And they met her there with a question fair,
"State what the per cent of your grade is."

Ages had slowly rolled away,
Leaving but partial traces,
And the teacher's spirit walked one day
In the old familiar places.
A mound of fossilized school reports
Attracted her observation,
As high as the State House dome, as wide
As Boston since annexation.

She came to the spot where they buried her bones,
And the ground was well built over,
But laborers digging threw out a skull
Once planted beneath the clover.
A disciple of Galen wandering by,
Paused to look at the diggers,
And picking the skull up, looked through the eye,
And saw it was lined with figures.

"Just as I thought," said the young M. D.,
"How easy it is to kill 'em"—
Statistics ossified every fold
Of cerebrum and cerebellum,
"It's a great curiosity, sure," said Pat,
"By the bones can you tell the creature?"
"Oh, nothing strange," said the doctor, "that
Was a nineteenth century teacher."

—*N. Y. Tribune.*

THE CLERGY AND THE PUBLIC SCHOOLS.

THE position of the Protestant clergy of the Pacific States in relation to the public schools has, until a very recent date, been very tolerant, not to say liberal. But the scales are evidently falling from the eyes of a few reverend gentlemen, and we find them fully in accord with the Catholic priesthood in uncompromising hostility to our system of unsectarian instruction. They denounce our schools because we do not teach arithmetic evangelically, and because the Thirty-nine Articles have no place in the state course. The pastor of one of the largest of the Episcopal churches of San Francisco advocated, a Sabbath or two ago, a division of the school fund, and the establishment of all sorts of sectarian schools. After all, this kind of talk does less harm here than probably anywhere else in the world. Our people are unalterably wedded to our broad and enlightened system of unsectarian education; and ecclesiasticism is not powerful enough on this Pacific slope to make much impression, on devout church-members even, when the school question is touched.—*Pacific School and Home Journal.*

Ignorance is the hot-bed in which everything vile flourishes. A secular public school system is the only system possible under our form of government. The logic that would destroy their secularity would destroy them altogether. This is our matured opinion on the subject. The issue is, secular public schools or no public schools. This is the real issue. No one will claim that our present system is perfect, but we will hold on to it until a better way is shown.—*Fitzgerald's Home Newspaper.*

DEPARTMENT OF PUBLIC INSTRUCTION.

HARRISBURG, Nov. 12, 1877.

TO THE EDITOR OF THE WEEKLY:

Dear Sir:—Will you be kind enough to publish the following, with such comments as you may see proper, in the next issue of your paper?

A special meeting of the Department of Superintendence, National Educational Association, will be held in the lecture room of the Congregational church, Washington, D. C., commencing on Tuesday, Dec. 11, and continuing two or three days.

Important business will be transacted concerning measures for strengthening the National Bureau of Education, the establishment of a National Educational Museum, the proper representation of the educational interests of the country at the Paris Exposition, the appropriation of the proceeds of the public lands to school purposes, and others equally important.

Papers are expected to be read by Hon. John Eaton, United States Commissioner of Education; President J. D. Runkle, of Massachusetts; Hon. William H. Ruffner, of Virginia; Hon. Jas. H. Smart, of Indiana; Hon. William S. Thompson, of South Carolina, and others. Leading officers of the government, and Members of Congress interested in education, have been invited to take part in the deliberations of the Department.

No more important educational meeting has ever been called together in the United States, and it is hoped that every state in the Union will be represented by its leading school officers. A full programme of exercises will be issued as soon as it can be prepared.

The rates for boarding at the Ebbitt House, to Members of the Department, will be $2.50 per day. JAMES P. WICKERSHAM, President.

Ignorance generates poverty, pauperism, and crime among the masses, while demagogues, corruptionists, and traitors feed and fatten upon its ignoble spoils. An intelligent, virtuous, and vigilant people can neither be deceived, corrupted, nor betrayed. But illiteracy is an insidious disease, preying upon the vitals of the body politic; and unchecked, it can lead only to a fatal termination.—*Phelps' Teachers' Hand-Book.*

The East.

FITTING BOSTON GIRLS FOR COLLEGE.

THE proverbial complacency with which Boston regards her school system has recently been disturbed by an episode whose history, aside from its intrinsic interest, has a value for every place in which there is a possibility of similar questions coming up for consideration.

It must be premised that the Superintendent of schools and a majority of the committee have long favored the separate education of the sexes; also, that a little more than a year ago the conditions were as follows: The High Schools of the city proper were three; the Latin School in which boys fitted for college, the English High School for boys, and the Girls High School, which gave a certain amount of classical instruction but did not succeed in fitting its pupils for college. There were also five mixed High Schools in the annexed districts, four of which fitted for college. At the time referred to, something over a year ago, an order was passed by which this preparatory function was removed from all the schools except the Latin school, leaving no place where, in regular course, girls could fit for college. This much by way of prelude.

Now as there are three colleges in Massachusetts alone to which girls are admitted, and at least one in each of the other New England States, this was a serious blunder to make, not to mention the fact that by statute law of the state, every town of more than four thousand inhabitants is required to sustain a school for giving this special training to all children without distinction of sex

In September of the present year, an organized effort to secure peaceable redress of the grievance was made by the presentation of petitions, some of which asked, as the most immediate remedy, for the opening of the Latin School to girls, while others insisted merely on provision for the girls of similar instruction in a suitable manner and place; and the series of hearings before the committee which followed was characterized by some remarkable features which deserve consideration. The first was a prompt and presistent attempt by those opposed to the granting of the petition to make the issue simply on the matter of coeducation. Hour after hour was spent in the discussion of this topic; letters were read from men known and unknown, and those who had inaugurated this plan had the satisfaction of seeing a very considerable success attend it. The real question was almost buried out of sight under this rubbish, and it was only at the last hearing that the petitioners had so far recovered their heads as to put due stress on the gist of the matter. Even then a good deal of time was consumed in answering points that had been raised as to the general effects and influences of letting boys and girls study in the same room and recite in the same classes.

The tone of discussion was another noticeable feature. It became personal and bitter, as might naturally be expected in a case where the one side was conscious that it defended a cause which lacked both legal and moral support, while the other felt that it was being disingenuously treated and thrust into a position it had never assumed. The injustice had been done, but those who had committed it or approved it now saw that what they had taken away must be restored in some form, and made haste to propose another way than that first suggested by the petitioners. They said in substance, that no one could be more ready to advance the education of girls than they themselves were, but that the way to do it was not to put girls in the Latin School but to give them a place by themselves and a different sort of training. Such at least was the course of most, but some of the more intemperate or more out-spoken said explicitly that girls ought not to study Greek. The petitioners, on the other hand, ran almost as wild as their opponents, although in a different fashion, and though more straight-forward, were as bitter in speech and almost as far from sticking to the text.

Again, the nature of the statements made and arguments used was worth notice. For example, President Porter of Yale said in a letter which was read that "the natural feelings of rightly trained boys and girls are offended by social intercourse of this sort." A letter from Charles Francis Adams, after speaking of coeducation as if it were an entirely new experiment, said, "It will go on until some shocking scandals develop the danger." It was said that girls ought not to learn Greek because its literature is immoral, that the decision of this matter should be in the hands of graduates of the Latin School because they understood it and knew what it wanted, and that girls should not be admitted there because the way to teach boys was just the way not to teach girls. Add to the above, mutual charges of mis-statement, and hints of unfair dealing, and a very pretty picture results of an actual educational discussion at the Hub.

The question is not yet decided, but the sub-committee before which the hearings were conducted has reported in favor of opening a separate school for girls to be located in some present school building which has unoccupied rooms. The whole affair has been a striking illustration of the danger of running away with a theory. Men who had taught themselves to dread co education, or who, possessing more zeal than knowledge of the matter, supposed that every arbitrary division must be "progress by differentiation," were those who took action which, while conforming to their own theories, was in violation of the requirements of law, and involved an immediate practical injustice which now after more than a year is still uncorrected. They are the ones who, when the results of their action excited universal comment, thought first of all how to befog the matter and direct attention to side issues, making ready to give as a praiseworthy concession what they can not refuse. They are men of character and standing to whom no suspicion of deliberate wrong attaches, but their theories led them into a grave mistake, and they had not the courage to admit their error frankly. A distinct theory is essential to administrative progress, but it is like fire in being a good servant but a bad master.

NOTES BY THE WAY.

MAYWOOD—ELMHURST—LOMBARD—PROSPECT PARK—WHEATON.

At Maywood, Prof. Barrett, formerly of Michigan, is principal of the schools. Mrs. M. A. Barber, who has taught for many years in the city schools, has in charge the Primary Department. The written work done in this school is excellent. Cases of tardiness, few and far between. We listened to an exercise in reading in the high school. The teacher, a good reader, read each paragraph before allowing the pupil to read. The youth are good imitators. Miss Benjamin teaches on the north side of "the track." On account of incessant rain we were denied the privilege of visiting the school.

At Elmhurst, just over the "border line" in Du Page county, we find at this good work, Mr. A. M. Ballou, of Wheaton, assisted by Miss Augusta Hatterman, of Chicago. The teachers' hard work cannot be so highly appreciated here as at other places we have visited. The school has never been properly graded; this cannot be done at once. The teaching of grammar is confined to the higher department. Miss Hatterman gives instruction in German to the pupils of Mr. Ballou's school each day. A sister of Miss H. has been a teacher of German in the Brown School, Chicago, for several years. The Lutherans have a Seminary at this place.

Prof. L. W. Crosman, assisted by Miss Ella L. Yalding, do duty at Lombard. Mr. Crosman is a teacher of long experience at Lynn, Mass. Much attention is paid to book-keeping and music. The gentle tones of the flute accompanied by the youthful voices of his charge rendered us some fine music. Prof. Crosman suggests the publication of the flora of Chicago and vicinity in the WEEKLY. Lombard needs a new school-house.

Mr. Walter Sabin and Miss Lillian E. Nind teach the young ideas at Prospect Park. Mr. Sabin is working earnestly for the building up of a good school system. A library and more apparatus are much needed. Such things add very much to the efficiency of school work. It is too bad that the youth of one town should be denied all of these helps to good training and culture while in Oak Park and other towns the school directors furnish everything so cheerfully. The little ones in Miss Nind's room rendered "Baby Bye" in fine style. It was given as an exercise song. Miss Georgie B. Allen teaches near the village on the north. She has a vacation at present, and will resume work the coming week.

We now go to the county-seat, Wheaton. Wheaton College stands near the rail-road track, and presents a fine appearance. The building is of stone. The following ladies compose the faculty of Wheaton public schools: Misses Ida McMicken, S. A. Smith, Grace McMicken, F. H. Hiatt, F. E. Wheaton. The names are given in regular order corresponding with the positions which they occupy, beginning with the principal. The Misses McMicken are students from Vassar College. Miss F. E. Wheaton is succeeding nicely in teaching the word-method. The concert-reading in Miss Grace McMicken's room was rendered in a manner worthy of note. If concert reading can be as well taught by all, then let us have a fair amount of it in all our schools; but when two or three loud readers in a class of ten or twenty do all of the reading, while the rest are stumbling along trying to keep up, making their lips move or may be not giving any attention to the *noise*, then let such work be discarded. We saw some fine maps of the United States and also of Illinois in several rooms, in particular Miss S. A. Smith's room. The method used in the study of history is excellent in this department.

We copy this from the blackboard in the high-school room:

President's Cabinet.

Secretary of Treas. John Sherman,
" " State, W. M. Evarts,
" " War, G. M. Mc Crary,
" " Navy, R. W. Thompson,
" " Interior, Carl Schurz.
P. M. General, D. M. Key,
Atty. " Chas. Devens.

The school-building is a very fine one and shows to the visitor that Wheaton will be up with the times. The WEEKLY and PRACTICAL TEACHER have found many new homes this week.

A. H. P.

A teacher of a Sunday school in the interior of New York was impressing upon the scholars a lesson in connection with the the death of one of their number. She told them that little Amy was now a saint in heaven. Whereupon one of the girls spoke up and said, "She will get plenty of preserves there." Astonished to hear her make such a strange statement the teacher questioned her to ascertain what could have put the idea in her mind. It was finally traced to the following question and answer in the catechism: Question, "Why ought the saints to love God?" Answer "Because he makes, preserves, and keeps them."

Notes.

LITERARY.—The November-December Number of *The North American Review* contains the following articles: Resumption of Specie Payments, by Hugh McCulloch, Judge W. D. Kelley, Gen. Thomas Ewing, David A. Wells, Joseph S. Ropes, and Secretary Sherman; Cavelier de la Salle, by Francis Parkman; The War in the East, by Gen. Geo. B. McClellan; The Functions of Unbelief, by Thomas Hitchcock; The Southern Question, by Charles Gayarre, of Louisiana; Michelangelo and the Buonnarroti Archives, by T. Adolphus Trollope; America in Africa, by Gilbert Haven; The Situation in France, by a Paris Resident; How shall the Nation regain Prosperity? by David A. Wells; The Ultramontane Movement in Canada, by Charles Lindsey; Contemporary Literature. This number is published by James R. Osgood & Co., Boston. The Review in the future will be published by D. Appleton & Co., New York. For sale by all booksellers.——D. Lothrop & Co. issue, in the "Golden Treasury Series" six very choice volumes, namely, "The Golden Treasury," by Francis Turner Palgrave; "The Book of Praise;" Miss Yonge's "Book of Golden Deeds;" Wm. Allingham's "Ballad Book;" "He Leadeth Me;" and Coventry Patmore's "Garland from the Poets."

Correspondence.

A LETTER FROM TEXAS.

TO THE EDITOR OF THE WEEKLY:

I HAVE read the WEEKLY with interest, but if it reflects the opinions of advanced thinkers among professional teachers your boasted "school system," both east and west, is far from what it should be in the great mission of civilization, enlightenment, etc. There seem to be numerous causes of complaint, *e. g.*, the petty district system, the ignorance of local officers, the incompetency of teachers, and especially the opposition of tax-payers, under the hue and cry of retrenchment and reform, to anything but commoner houses, cheaper teachers, and to all the new-fangled conveniences, adornments, machinery, etc., devised for more efficient work. These are serious complaints, but withal very natural ones, and the problem is, how under our system of government these are to be remedied. Now we can readily conceive of a sovereign's being educated up to a point of reform and his applying a remedy complete and effectual to existing evils, but our whole political fabric rests upon another basis, the will of the people, instead of a sovereign; and said basis presupposes virtue and intelligence to begin with. The demand of statesmen has been, educate or we perish! But these are not all; other questions are constantly looming up and we, who have no educational system, are beginning to think that our voluntary way of getting along is the better after all. A fierce controversy I see is raging in reference to the studies proper for common schools, and the reverse of the old argument is being urged, *viz*: The rich are being educated at the expense of the poor! This drags in its train the whole question of high, graded, and normal schools, as well as state universities. Years ago we sprung the same question. The village high school demurred and its pupils came and demanded tuition in higher branches. We demurred, appealed. Supt. Dix evaded a decision and advised compromise. The Bible in schools is an old question and flames out betimes like a house afire and springs a whole family of quarrels containing elements of religious bigotry which never surrenders. The common schools are denounced as Godless. We have no established religion and government must observe a strict neutrality in such matters; but is there any neutral ground?

The WEEKLY wonders at Prest. Fowler's late deliverance, and why? The science of morals he will contend—ten to one—is based upon the will of God, but the will of God is a matter of revelation, and the church through its regularly constituted authorities claims the sole right to interpret and apply said will! So his conclusion from the premises, viz., that the state has no right to teach morals, is a natural one. Is ours a brand new development of civilization? Is human nature changed? Or are we but repeating history? What is the educational, the social status of the oldest nations? Despotism in government; caste in society; ignorance, with all its train of vices, the inheritance of the masses; education, wealth, and domination of the few.

The matter of discipline is another question which has had a powerful run, and various theories from Alcott's—compelling the culprit to flog his teacher—to the old-time one of not "sparing the rod"—and lately this Alcott theory is held up as the very theory of divine government, so we may expect enthusiasts to run mad over this new deliverance from the pulpit. Compulsory education is a new educational phase, and is reached by reformers thus: Government has the right to conserve itself. Intelligence is the great conservative element, hence, etc. But secular or Godless education, says the statesman, is mere knowledge, and abstract knowledge is mere power—power for good, and evil as well. Our slip-shod method may be very defective; our practice of distributing school funds as spoils of office may seem strange—but happily it leaves us free from many a vexatious question—that might in this hot climate burn us to a cinder.

E. P.

I think the paper is excellent.—Wm. J. Sampson, Burlington, Ia.

QUERIES AND ANSWERS.

ANSWERS.

[The answers are numbered to correspond with the queries which have preceded.]

48. Rate of gain upon 20 per cent the same as upon the remaining 80.

$\left[\frac{30-20}{20}\right]$ 80+80=120, the selling price in both instances.

120−100=20 per cent, first rate of gain.

$\left[\frac{120-80}{80}\right]$ = 50 per cent, second rate of gain. S.

Let x= the gain per cent required,
and x+100= the amount received;
then 100−20=80, the amount of cost, if the article had cost 20 per cent less than 100.

Now, if the difference between the cost and selling price of an article be made the numerator, and the cost be made the denominator of a common fraction, and the result reduced to a decimal, such decimal represents the gain or loss per cent, but

$\frac{(x+100)-80}{80}$ represents such a per cent on the supposition that 80 was the cost, and 100+x the selling price, while $\frac{x+30}{100}$ also represents the same rate.

$\therefore \frac{(x+100)-80}{80}=\frac{x+30}{100}$

whence, x=20 per cent. H. B. A.

Had cost been 10 per cent less, that alone would give a gain equal to $\frac{1}{9}$ of cost, or $11\frac{1}{9}$ per cent. Then 15 per cent $-11\frac{1}{9}$ per cent, or $3\frac{8}{9}$ per cent, is the increase in consequence of the *required gain per cent*. Now had that been 10 per cent, the gain would have been $\frac{2}{9}$ of the cost; $\frac{1}{8}$ on account of the cost being 10 per cent less, and $\frac{1}{8}$ or $11\frac{1}{9}$ per cent on account of that 10 per cent gain, showing an increase in gain per cent to be $1\frac{1}{9}$; therefore, *the required gain per cent* must have been as many times 10 as $1\frac{1}{9}$ is contained in $3\frac{8}{9}$, which is $3\frac{1}{2}$ times; and $3\frac{1}{2}$ times 10 is 35, *the* gain per cent.

Let x= gain on $1 or gain per cent.

Had cost been 10 per cent less, cost would have been 90 cents, and gain x+10; hence, gain per cent would have been $\frac{x+10}{90}$ which by the condition is equal to $\frac{x+15}{100}$

The equation $\frac{x+10}{90}=\frac{x+15}{100}$ reduced gives x=35, *the* gain per cent.

C. C. D.

In his solution of problem 48, No. 38, does not "Omega" err when he states that 30 per cent ÷ 20 per cent = $1\frac{1}{2}$ per cent? Is not the *true* quotient, $1\frac{1}{2}$, an abstract number? Does he not desire to find what per cent 30 per cent is of 20 per cent? And is it not 150 per cent instead of $1\frac{1}{2}$ per cent? and is not 150 per cent × 80 per cent = 120 per cent? Would it not be better to indicate the operation in this way? 30 per cent ÷ .20 = 150; 150×1 per cent = 150 per cent. 150 per cent of 80 per cent = 120 per cent = selling price; 120 per cent − 100 per cent = 20 per cent = gain per cent. I have another method which I think is quite simple and satisfactory. Lest some of your readers may not know what the problem is, permit me to restate it:

Had an article cost 20 per cent less, the gain would have been 30 per cent more; required the gain per cent.

First, I will give a short algebraic solution, from which I deduce the arithmetical. The selling price is the same in both cases; hence, let x represent it; then, from the conditions of the question, we may form the following equation: $\frac{x}{1}$ + 30 per cent (c. p.)= $\frac{x}{.8}$; .8x+24 per cent (c. p.)=x; .2x=24 per cent (c. p.); 2x=240 per cent (c. p.); x=120 per cent (c. p.)= selling price; 120 per cent − 100 per cent = 20 per cent = gain.

Arithmetically: Putting the selling price equal 100 per cent, we have

$\frac{100 \text{ per cent (s. p.)}}{1}$ + 30 per cent (c. p.) = $\frac{100 \text{ per cent (s. p.)}}{.8}$; 80 per cent (s. p.) + 24 per cent (c. p.)= 100 per cent. (s. p); 20 per cent, selling price (s. p.) = 24 per cent, cost price (c. p.); 100 per cent (s. p.) = 120 per cent, (c. p.); hence, the gain = 20 per cent. J. M. M.

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59. Leaving a margin of ½ rod, there would remain an area 11 rods square. Upon this area could be set 12 rows of trees with 12 trees in a row with no tree *within* a rod of another: 12×12=144 trees, *Ans.* Were I to divide the plat into the greatest possible number of equilateral triangles whose sides= 1 rod and set a tree at each angle I could set out the same number, and no more. To divide into squares is the better way. The reasons are apparent.

M.

As the garden is 12 rds. sq., and each outside row must be ½ rd. from the fence, there will be eleven rods sq. left for trees. Then as there are trees on each outside row, there must be twelve rows of trees on a side, or 144 trees in the garden. If the questioner asked for imformation, let him draw a diagram of the garden and he will easily understand it. H.

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68. Every cow bought costs $9.00 above the average price; and every sheep costs $\frac{8}{9}$ below the average price. To balance the purchase of one cow, as many sheep must be bought as $\frac{8}{9}$ is contained times in 9, which is $10\frac{1}{8}$. Therefore the number of cows will be to the number of sheep as one to $10\frac{1}{8}$. or, in integers, as 5 to 54. Then if 5 cows, 54 sheep, and 41 hogs be bought, we shall have 100 animals at a cost of $100. Wm. Wheeler.

Average price $1 $\left\{\begin{matrix}10 \\ 1 \\ \frac{1}{6}\end{matrix}\right.$ $\begin{matrix}\frac{8}{9}\times 6= & 5 \text{ cows at } \$10 & =50 \\ & 41 \text{ hogs at } \$\ 1 & =41 \\ 9\times 6= & 54 \text{ sheep at } 16\frac{2}{3} \text{ cts.} & =\ 9 \\ & 100 \text{ animals for } & \$100\end{matrix}$

After finding relative ratio of animals for greatest and least price, we multiply by 6 to clear of fractions; this gives the least number of *entire* animals that can be purchased for an equal number of dollars at these prices. Any number of animals at the average price of $1 can be introduced without changing the conditions of the question; hence we take 41 being the number required to make up the 100 animals. D. H. D.

This is an example in alligation where the quantity of whole mixture is limited. The price of the hogs being same as mean price, the number can be governed entirely by the other conditions of the problem. Comparing the price of a cow with mean price, we find that in buying one cow there is an excess of the mean price of $9.00 and to balance this excess, as many sheep at $16\frac{2}{3}$ cts. must be taken as the gain on one sheep, $83\frac{1}{3}$ cts, is contained times in the $9.00 excess, or $10\frac{1}{8}$ times. These proportional numbers must be multiplied by some multiplier that will make integral products whose sum is less than the limited number or 100. The only multiplier which will do this is 5, giving 5 cows and 54 sheep. The number of hogs will be 100−(54+5) =41 which numbers will verify the statement. H. M. E.

$16\frac{2}{3}$c = $\frac{1}{6}$ of a dollar. By usual form of alligation alternate;

		1	2	3	4
1	10	$\frac{1}{9}$		5	5
	1		1		41
	$\frac{1}{6}$	$\frac{8}{9}$		54	54

Explanation.—Compare 10 with $\frac{1}{6}$ to obtain column 1; multiply 1 by L. C. M. of the denominator to obtain 3; multiply 2 by 41 and add column 3 to obtain 4. *Proof:*—5@$10=$50, 41@$1=$41, 54@$\frac{1}{6}$=$9; total, 100 for $100. E. B. F., Jr.

We first establish two limitations:

1. The number of cows cannot exceed 9, if it were 10 there would be neither hogs nor sheep.

2. As the whole cost of all the animals, the whole cost of the cows, and the whole cost of the hogs are each whole dollars, the whole cost of the sheep must also be whole dollars, and the *number* of the sheep must therefore be 6 or some multiple of 6.

Secondly, from the conditions we have

1. A certain number of cows, a certain number of hogs, and a certain number of sheep together equal 100 animals.

2. Ten times as many dollars as cows, the same number of dollars as hogs, and $\frac{1}{6}$ as many dollars as sheep together equal 100 dollars.

Therefore the amounts of these two sets of numbers equal each other, both amounts being one 100. "Things equal to the same thing are equal to each other."

From each of these equals subtract a number equal to the number of cows, a number equal to the number of hogs, and a number equal to $\frac{1}{6}$ the number of sheep, and there will remain on the one side a number equal to $\frac{5}{6}$ the number of sheep, and on the other a number equal to 9 times the number of cows, equal to each other. "From these equals if equals be subtracted, the remainders will be equal." Multiply these equals by 6 and the result shows that 5 times the number of sheep equals 54 times the number of cows. "If equals be multiplied by the same the products will be equal." Hence the ratio of the number of cows to the number of sheep is 5 to 54. Now there are no other two numbers having this ratio within the limitations first established.

Therefore there were 5 cows and 54 sheep, and consequently 41 hogs. Certification. 5 cows @ $10.00=$50.00, 41 hogs @ $1.00=$41.00, and 54 sheep @ 16 $\frac{2}{3}$ cents = $9.00, which sums together make $100.00. Also, 5+54+41=100. Werden Reynolds.

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69. Should we say "lie down" to an animal? Should we use "sit" with anything but persons?

Lie and *sit* are *intrasitive* verbs, and may be used with either persons or things; as

"Where *lies* the land to which yon ship must go?"

"As the partridge *sitteth* on eggs but hatcheth them not."

"The little bird *sits* at his door in the sun."

Lay and *set* are *transitive* and *causative*. Lay—cause to lie. Set—cause to sit or rest.

I *lay* the book down; that is, cause it to lie down.

He *set* the his turkey on twenty eggs; that is, caused the bird to sit.

The verb *set* as applied to the heavenly bodies is *intransitive*.

B.

I believe the "unchanging rule" for which "Ignorance" inquires is this; *Lie* and *sit* are always *intransitive*, *lay* and *set*, always *transitive*.

If one is in doubt as to which verb to use in any instance, let him ask himself the question: "Is this action performed upon anything" If it is, then the proper verb is lay or set, if the action is not performed upon an object, then the proper verb is *lie* or *sit*. The rule is the same whether speaking to or of persons or things. I say to my dog, "Lie down, sir," or of my hat, "It is lying on the floor" or of the pitcher, "It is sitting on the table, I set it there." The only exception to this rule, as far as I know, is when we say "The sun sets." W. W.

The Educational Weekly.

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CHICAGO, NOVEMBER 22, 1877.

Minnesota.

CHAMPLIN schools commenced the 16th ult. Miss Wells is principal and Miss Ludlow is teacher in the primary room. Miss Wells is a teacher of some experience and a graduate of the St. Cloud Normal school.——The University students are agitating the subject of a college paper, and expect to succeed. The University is now old enough, and has a large enough number of students.——Carleton College has been paying especial attention to its scientific department this fall. In chemistry a large class has daily laboratory practice. Prof. Sperry is planning for this winter a series of hygienic lectures in different places in our state. They will be illustrated by means of large paintings prepared specially for this purpose, and a manakin recently imported from Paris.——Reports from teachers' institutes held in different parts of the state indicate better qualifications and more earnest work on the part of those who belong to the instructed class. There is no better way to infuse interest in these associations than to give them leaders who can give out something fresh and suggestive, and drawn from their own practical experience. We must give educational tramps, itinerants with their kit of methods, a wide berth, and make room for those who are filled with the life of to-day.——St. Paul public schools have already enrolled nearly 3,400 pupils.——Minneapolis will soon be proud over a first-class high school structure.

THE RECITATION AND ITS OBJECT.—II.

A lesson must be assigned beforehand; there must be time for the pupils to look at it, to think and reason over it, and to extract the meat that shall nourish. According to their quickness of apprehension they will see what they need and discard the rest. A chapter in history may be assigned and required to be memorized. It may be accomplished faithfully for the day, but if unguided, one pupil will remember the important events and their dates, his mind being of that order; he will reject all the meat and the richness, and will serve his family and his country as a chronological table, and will be useful in his way, too. Another remembers the events as having important bearing on the life and character of nations and individuals, and becomes corpulent on the meat of his study, but loses exactness by regarding the multitudinous dates as cumbersome, and loses grace and ease by rejecting as superfluous the words and expressions of the book, and becomes an encyclopædia. And still a third memorizes only to enrich his vocabulary, remembering anecdotes, striking quotations, elegant turns of expression, choice words, and becomes a brilliant conversationalist and ready writer, but as for history, he knows it not.

It seems a duty of the teacher, then, in a recitation, to guide the thought—show the pupil of statistics that there is need of flesh to cover the dry bones of his skeleton; the pupil of the facts that his flesh must have a skeleton to keep it in its proper place, and the man of words that beauty is but *skin* deep; not by apparent personal application, but by suggestion and question, by showing the relation of facts to previous or subsequent history, by giving a glimpse occasionally of the influence that even remote history has had upon our nation and our time. An interest will thus be awakened, so that by forming new analogies, finding other relations, seeing the necessity of one date following another, more or less, but not in the same proportion, the pupils in history will add to their mental height and breadth.

In mathematics one can master rules, another "work out sums," and another divine principles. The work here is the same. The fitness of one part to the other must be shown; some of the pabulum must be prepared by explanation, either directly or by drawing it out of the class by well-directed questions. If a teacher solves all the difficulties, it is wonderful how many difficulties will arise. In a short time a teacher of expositions can paralyze the whole class. If no explanations are given, the majority see no form or comeliness in their tasks, nothing that appeals to their taste and there is no attempt at digestion. A teacher that explains away all apparent difficulties does an irreparable injury to the pupil, and yet one must remember that in these times discipline is not everything, and practical knowledge makes its claims, so that a large amount of time is wasted by requiring pupils to puzzle over a problem for four or five days, when an explanation at the right time may give them courage and impetus enough to conquer a dozen more in the same time. If I may venture so to do, I express my opinion that some of the problems in all or nearly all of our mathematical works of high school grade are an absurdity—as problems for class work; there is, to me, something ridiculous in the idea of an author's concocting a puzzle, solving it himself, publishing it in a key, and offering it for a consideration to any aspirant for mathematical honor. Keys seem to me pernicious, unless it be that in arithmetics or algebras the puzzles be put by themselves and a key appended, that if the curious and mathematical wish to struggle over them they can have the opportunity and rejoice in it, while the class in general need have no unnecessary stumbling blocks.

But for illustration of proper explanation—given a problem that requires thought and knowledge of peculiar processes, one that although difficult yet involves important principles and is capable of being solved by following comprehensible steps; the form of the statement may be new to the class, or some of the processes may be. Now what shall be done about it? From a variety of methods I take one. Let the instructor read over the problem, simplifying the language if need be, or drawing out its meaning from the class. With crayon in hand, stand at the blackboard and do the work for the sake of saving time and avoiding mistakes; then step by step through the problem, obtaining from the pupils the process if possible; if not, give direct information; or by statement of a general process or principle let the class make the application. After the problem has been solved, answer questions relative to its understanding, then erase and give it immediately for solution to some of the class.

Wisconsin.

WE take the following from an address of Supt. Burton of Janesville, published in the *Gazette*: "Mr. Jas. Sutherland was the first superintendent of city schools, under whose administration much was done toward gradation, the adoption of a course of study and list of text-books. Rev. H. Foote succeeded him as superintendent. Afterward the principal of the high school performed the duties of superintendent. Mr. Hiram H. Brown was the first to teach school within our city limits. C. B. Woodruff was probably the first teacher of our graded schools. J. Russell Webb succeeded him. The following is a list of educators who, from 1857 to the present management, have acted in the double capacity of principal of high school and city superintendent. From about 1857 to the spring of 1861, Prof. Cass. From fall of 1861, to Dec. 20, 1861, McKindley. From January 1862 to May 10, 1864, Prof. Lockwood. From April 1864, to July 1864, Miss Byrues. From Sept. 1864, to July 1866, Prof. Hutchins, Fond du Lac. From Sept. 1866 to October 1869, Prof. O. R. Smith. From Oct. 1869, to January 1870, Dr. E. A. P. Brewster. From January 1870 to April 1875, W. D. Parker. From April 1875 to———R. W. Burton. Of these gentlemen Prof. O. R. Smith, who was so suddenly cut off on the 26th of August last, was one of the ablest and widest known among the state educators. Prest. W. D. Parker, whose connection with our schools closed in April 1875, has for many years been conspicuous among the leading educators of our state. Last year the enrollment in the high school was above the average of former yea s. The present year it will doubtless reach 130 pupils. The average age of pupils at entering our school is 5½ years, while the average at leaving is 17 years. Fifty-three pupils have already graduated from the high school. A class of ten will join its alumni this year. In January 1855 Mr. James Sutherland began the publication of an educational journal, and after publishing it one year, transferred it to the State Teachers' Association. It now ranks among the ablest educational organs of the northwest."——The following is a list of the principals of the graded schools of Walworth county; Whitewater, west side, L. L. Clark; east side, Chas. Sanderson; Delavan, Elias Dewey; Geneva Lake, F. O. Burdick; Elkhorn, D. H. Flett; Sharon, Fred Hendrix; East Troy, John Hennessy; Darien, Ed. Swinney; Allen's Grove, Howard Silver; Genoa Junction, G. M. Richards; Troy, Blanche West; Lyons, Lillian Madden.——"We wish to supplement a note which appeared in the Educational last week, to the effect that the most annoying personage the young teacher is likely to encounter is the non-progressive, moderatly successful schoolmaster of thirty or forty years ago."—Supt. Barnes in Kenosha *Telegraph*.——We are informed that Janesville and Stevens Point will extend invitations for the next annual meeting of the Wis. Teachers' Association.——Supt. Older, of Marquette county, makes acknowledgment through the Montello *Express*, to the teachers and friends of education for a beautiful and costly present.——"The Chicago EDUCATIONAL WEKKLY, in an article on Teachers' Institutes, says: 'We have far more faith in institutes which attempt a few things than in those which aim to spread themselves over a whole common school curriculum now altogether too greatly extended.' We have before remarked that a modern fault in our common school system is that it attempts to spread over too many subjects, and crams into the scholar more than he can thoroughly understand during the few years which form the average attendance of the scholars in our public schools. We are glad to see at least one educational journal which recognizes this weakness, though only incidentally. It deserves more investigation than it seems likely to have."—*Marinette and Peshtigo Eagle*.——Supt. H. S. Baker, of Pierce county, in the River Falls *Journal*, give the following as Lessons from the Examination: "A great improvement is visible in history, throughout the county. Orhoepy, constitutions, local geography, and theoretical penmanship receive all the at-

tention, comparatively, which they deserve. Physiology is gaining ground and taking a practical turn. Correct ideas of theory and practice are very general and far ahead of what was noticed eighteen months ago. Correct ideas of either the theory or practice of reading are rarely found. We would urge a diligent study of the fundamental ideas of reading, from emphasis onward. Practice reading aloud. It is probably the best exercise known. In cases in which the rules are known the applicant does not always show so much excellence in practice as one would expect. The reading is too lifeless, and the important words are not made sufficiently emphatic."——Miss Betsy Clapp, of New Richmond, was elected superintendent of St. Croix county.

Michigan.

THE State Teachers' Association will hold its next annual session at East Saginaw, December 27, 28, 29. The programme of exercises will soon be published. The executive committee has endeavored to select gentlemen and ladies who give the addresses and papers in such a way that all the classes of schools in the state shall be represented. We are assured that the University, the denominational colleges, the Normal School, and the graded schools are all to have their representatives upon the programme, and that the specialists shall also be represented. An effort is also being made and with considerable promise of success, to have the public schools represented at the meeting by complete sets of blanks in use in each, by full statistics of condition and progress, and by sets of examination papers of pupils, specimens of penmanship, drawing, map-drawing, etc.——We are pleased to copy the following paragraph from one of our exchanges, the Adrian *Daily Times*, of Oct. 19, and to express our satisfaction that the really valuable work of Prof. Payne, "Chapters on School Supervision," is receiving the attention abroad which it really deserves. There is no more diligent student of education among the educators of Michigan than Supt. Payne of the Adrian public schools. "Prof. Payne has received a very marked recognition of the value of his late work on 'School Supervision,' and of his well-earned reputation as an educator and writer. A few days ago he received a letter from Emanuele Latino, a distinguished Italian educator, highly commending his 'Chapters on School Supervision,' expressing the hope that the work 'will fall into the hands of all who are engaged in the work of schools,' and asking him to 'become one of the associate editors' (*compilatori*) of the *Archivio di Pedagogia e Scienze Affini*, an influential educational review, published at Palermo, Sicily, of which he is the editor. Emanuele Latino is a member of several societies for the promotion of science and learning, and is the author of a valuable work on the 'Science of education in its harmonies and contradictions.'"

Illinois.

IN Pulaski county, Colwell was elected superintendent over Lippincott by a majority of ninety-seven.——Mr. Krape was elected superintendent in Stephenson county. His address will be Winslow until spring. Mr. Potter was not a candidate.——P. T. Chapman is elected superintendent of schools in Johnson county.——David Karracker is the superintendent-elect in Union county.——R. Williams is reëlected supt. of LaSalle county.——J. P. Amonett is reëlected superintendent of Brown county.——John H. Black is reëlected supt. of Adams county.——The third meeting of the Iroquois county Teachers' Association was held at Crescent City the tenth inst. The exercises were conducted by Mr. S. G. Haley, Miss Cevery, Mr. Niesz, and Miss Walker. The chief topic under consideration was "Uniformity of text-books." Judging from the following, which we find in the published report, something startling may be looked for from Iroquois. Why should they be so ungenerous as to clothe the matter in mystery? Come, out with it friends. If you have discovered the "elixir" pass it around. "The committee on Uniformity submitted a course of study with the names of text-books, a private copy of which will be sent to any one who will address the Secretary requesting it. This committee, consisting of the County Superintendent, four school principals, and two teachers of county schools, after having given much labor and thought to the work, believe that they have about consummated a plan which will put better and cheaper books into the hands of the children; which will introduce methodical and separate work into every school-room in Iroquois county, and save to the people at least one half the present cost of school books."

NEWS.

The Teachers' Institute of DuPage county held a session at Downers Grove, Thursday and Friday, October 25 and 26. There were about seventy-five different teachers present during the session. Instruction was given in civil government, phonics, penmanship, chemistry, and history, by Messrs. Herrick and Hawley of Chicago; Profs. Cross and Rassweiler of Naperville, and Miss Stocking, formerly a teacher at Hinsdale. The intervening time was fully occupied by illustrations and discussions of the necessities and modes of teaching analysis, evolution, penmanship, arithmetic, grammar, geography, morals and manners, spelling, and reading. This study received an additional practical illustration by the reading of a selection of "Topsy's Doings," from Uncle Tom's Cabin, admirably rendered by a little young lady from the Downers Grove public school. The methods of dealing with whispering and insubordination were also discussed. The efficacy of the different styles of punishment used in school, especially that of "*scolding*," was considered. The amount of work done, and the numerous benefits resulting from this limited session, ought to be an assurance of future meetings sufficient to insure them. At the close of the session the following resolutions were adopted:

We, the teachers of DuPage county, and state of Illinois, in convention assembled for the purpose of mutual improvement in the profession of teaching, and also to exchange suggestions for the advancement of education generally, do hereby resolve:

First:—That our hearty thanks and congratulations be extended to our worthy superintendent, C. W. Richmond, Esq., for having so ably discharged the duties of that office, and for his kind disposition toward the teachers under his supervision during the term of twelve years; and that we deeply regret that our relations as superintendent and teachers are now soon to be severed.

Second:—That we censure those teachers who have wilfully absented themselves from our County Institute.

Third:—That, in our opinion the late action of the Board of Supervisors of DuPage county, in reducing the salary of County Superintendent, was an injudicious act, greatly detrimental to the educational interests of the county, and should at once be reconsidered.

Fourth:—That the sincere thanks of the teachers are due to the citizens of Downers Grove for the hospitality that has been extended to them, adding thereby pleasure to profit.

B. H. GAMON,
P. A. DOWNEY,
MRS. H. P. HYDE,
Committee on Resolutions.

Friday evening the teachers and residents of Downers Grove and vicinity were highly entertained and deeply interested by an able lecture delivered by President Bateman of Knox College, former State Superintendent.

DuPage county allows the superintendent $200 a year.

Educational News.

ILLINOIS.—Albert G. Lane was elected superintendent of schools in Cook county.——James P. Slade's majority over the opposing candidate for county superintendent (there were two of them) in St. Clair county was only(!) 4,098. It is evident that the voters of St. Clair county thought best to let well enough alone.

MICHIGAN.—The WEEKLY was misinformed in regard to the engagement of Supt. G. M. Clayberg of Pontiac as instructor in mathematics at the Michigan Military Academy. Prof. Hennequin informs us that the Academy has a complete academic staff and the department of mathematics is conducted by C. N. Jones, formerly of the University of Michigan, Lieutenant S. A. Price, U. S. Army, having charge of the applied mathematics and engineering.——The first series of county institutes, under the new law providing for them, closed with a well-attended and interesting meeting at Galesburg, Kalamazoo Co., Oct. 29-Nov. 2. Twenty have been held in all, in the counties of Allegan, Alpena, Benzie, Berrien, Branch, Genesee, Gratiot, Hillsdale, Isabella, Kalamazoo, Kalkaska, Macomb, Newaygo, Oakland, Osceola, Ottawa, Saginaw, Sanilac, St. Clair, and Washtenaw. The attendance at each has been fair, though not generally large; and the interest developed has been such as greatly to encourage the friends the new system, and enable them to hope very confidently for its popularity, usefulness, and permanence.——Some weeks ago, upon the occasion of the change of residence of State Supt. Tarbell from East Saginaw, where he had superintended the schools for some years, to Lansing, the state capital, he was made the recipient of a beautiful memorial, 22x28 inches, framed in walnut and gilt, and bearing the following inscription in Latin: "To the honorable and esteemed H. S. Tarbell, late Superintendent of our public schools, as an acknowledgment of his successful labors, this memorial is presented by his sincere friend and well-wisher. May the professor in his new and elevated position as State Superintendent of our public schools be awarded equal success. Farewell!" The drawing was the gift of Mr. Tarbell's pastor—Rev. E. E. Caster, pastor of the Jefferson street M. E. church—and was executed by Prof. H. Meiser, of East Saginaw.

MINNESOTA.—At St. Cloud, Principal Parks made a proposition to the school board that as he had been sick and unable to attend to his duties during the term, $75 of the amount of his salary be used for the purchase of school apparatus. The board ordered the money to be so appropriated.

MISSOURI.—The Board of Trustees of Grand River College, Edinburg, has secured the services of Prof. Robert Adams, of New York, as First Assistant Teacher, to commence with the beginning of the present session. In the meantime the place will be supplied by Prof. Deeds, of Virginia.

TENNESSEE.—The eighth Congressional District Conference of Teachers and Educators which has been held during the present year convened at Lagrange, Fayette county, Oct. 17, 18, 19. These general conferences are mostly designed as a preliminary step to the organization of teachers' institutes in every county, and are well sustained by the leading educators of the state. They are appointed and supervised by the State Superintendent, Hon. Leon Trousdale. The Convention for the ninth district is now in session; it is the tenth held this year.

TEXAS.—Maj. J. M. Richardson has been elected president of the Texas Educational Association. It is requested that auxiliary associations be organized in each county and congressional district, and that delegates be sent therefrom to the State Association.

Practical Hints and Exercises.

SCHOOL TACTICS.

Prest. J. BALDWIN, Kirksville, Mo.

PROPER SCHOOL TACTICS save time, impart vigor, improve the appearance and spirit of the school, and train to the habit of exact and prompt obedience. Order results from system. A want of system in the movements of the school is a prolific source of confusion. The teacher, not less than the general, needs to be master of a well-adapted system of tactics.

School tactics should not be arbitrary. Principles should determine the movements and the signals. Even children ought to be able to perceive the *fitness* of the tactics.

I. PRINCIPLES.

1. *School tactics should be uniform.* So far as applicable, the system of tactics should be the same in all schools. The tactics of the army are the same throughout the nation. The combinations and changes of teachers and pupils continually going on demand the same uniformity for the schools. Variety in instruction, but uniformity in movement, is a desideratum in school management.

2. *Each movement should be necessitated by the school work.* All movements for show will be discarded. The necessity for each movement should be apparent. All changes will be effected in the shortest time consistent with perfect order.

3. *The signals should be few and significant.* The correctness of this principle will hardly be questioned; but, in practice, its violation is almost universal. Some schools use more than one hundred arbitrary signals daily. The waste of time and energy is immense.

(1) *Few.* The signals are for children. Many signals confuse, and to master them wastes much of the energy of teachers and pupils.

(2) *Significant.* Pupils are continually entering the school. Significant signals need no explanation. Arbitrary signals, such as counting, or tapping the bell, must be explained many times. From force of habit many teachers will continue to use the bell, but the general use of significant signals is only a question of time. The teacher who once tries them will always use them. In the following system the arbitrary signals, in common use, are omitted.

4. *A signal should be used for but one movement.* When a signal is always used tor the same movement, the pupil learns to respond almost mechanically. Confusion is avoided, and the utmost simplicity is reached. Without *thought*, this almost self evident principle is constantly violated.

5. *The signals should be given with the falling inflection, and in a low, firm tone.* The elocution of the teacher is an important factor in the government of the school. The thin, faltering tone and rising inflection cause even the children to smile.

6. *All movements should be executed quietly, quickly, and with milltary precision.* The noisy, slovenly movements of some schools are distressing. The results are a lack of interest, disorder, and bad habits. Precision gives interest. The old veteran never wearies of going through the manual of arms. Good penmen and musicians never lose interest in their arts. Strictly observe this principle, and your pupils will be delighted, will acquire the habit of prompt and cheerful obedience, and the appearance and spirit of your school will be vastly improved.

7. *Movements should follow signals.* This principle requires the observation of the following points:

(1) No movement is permitted except in obedience to a signal. Otherwise confusion reigns.

(2) The movement ordered must be executed before the next signal is given. Allow sufficient time for prompt execution.

II. GENERAL TACTICS.

We will consider school tactics under two heads—general and class tactics. General tactics include the movements of the entire school; also such tactics as are common to the school and the class.

I. Calling school.
1. Ring bell.
2. Give time to assemble.
3. Attention (command).

1. *Ring bell.* In small schools the teacher ordinarily rings the bell. If a pupil can be trained to do this it is better, as it enables the teacher to devote his time and energies to other work. But it must be considered an honor, and one pupil should not be continued in the position too long. No one must touch the bell except the pupil designated.

2. *Give time to assemble.* From two to five minutes are necessary. Small schools can assemble in from two to three minutes. In large graded schools the pupils form in columns and march to their respective rooms. In all schools the pupils must pass orderly to places.

3. *Attention.* The clock indicates that the time is up. The programme clock strikes. At the word *Attention*, there is absolute stillness. The teacher gives the necessary directions, and all enter upon the work of the hour.

4. *Remarks.* (1) The same order is observed, morning, noon, and after each rest. (2) Those not in seats when the word Attention is spoken, are tardy. (3) No boisterous conduct must be permitted while assembling. (4) Instead of uttering the word Attention, the teacher may strike a call bell, but the word is vastly better.

II. Hand tactics
- 1 Hands.
  - (1) To answer.
  - (2) To criticise.
  - (3) To ask question.
  - (4) To concur or oppose.
- 2 Down.
  - (1) When recognized.
  - (2) When one is called.

1. *Hands.* No one speaks without permission. This regulation is imperative and absolute. In all cases the desire to speak is indicated by raising the right hand.

(1) The pupil raises his hand whenever prepared to answer the question or do the work required. All should be made to realize that it is wrong and dangerous to raise the hand unless prepared.

(2) Each pupil is held responsible for each answer. All that object to the answer given raise their hands. Any one wishing to offer a criticism raises the hand. A failure to raise the hand indicates approval.

(3) The pupil wishes to ask a question in class or seat. The desire is indicated by raising the hand. Whenever possible, the question should be both asked and answered silently. One finger means a request to leave the room, two fingers permission to get a book, etc. The teacher may answer by an inclination or shake of the head.

2. *Down.* (1) Whenever the teacher recognizes the pupil, the hand is dropped. (2) When any one is called to answer, all hands are dropped.

3. *Remarks.* (1) The hand should be held as high as the head and held still. (2) Snapping fingers must never be tolerated. (3) Pupils not raising hands should frequently be called. (4) The teacher should be wide awake so as to see all hands as soon as raised. (5) Pupils must not raise hands except for good cause.

III. Dismissing School
1. School, Attention!
2. (General Business).
3. Arrange Desks.
4. Ready.
5. Rise.
6. 1, 2, 3, 4—1, 2, 3, 4—(count).

1. *School, attentjon.* All sit erect and await orders. A slight tap of the bell may be substituted for this signal.

2. *General Business.* Here the teacher makes such remarks as may be deemed necessary, and attends to any matters pertaining to discipline, etc. *Be exceedingly brief.*

3. *Arrange Desks.* Quietly books to be left are placed in desks, and others are arranged for carrying. Division leaders distribute hats, wraps, etc. If the building is properly arranged this is unnecessary, as each one can get his things as he passes out.

4. *Ready.* All prepare to rise. The teacher pauses a moment. All is readiness and stillness.

5. *Rise.* Simultaneously all rise, and each turns in the direction he is to move. A signal for turning is unnecessary.

6. *March.* It is best to count, 1, 2, 3, 4,—1, 2, 3, 4, and at the second (1) have all step off with the left foot, and keep time to counting. After the first week, the school will be able to march to music. Let the divisions follow each other, so as to have all move at once.

7. *Remarks.* (1) Observe the same order in dismissing at all recesses, at noon, and in the evening. (2) Order in dismissing adds much to the character of the school. (3) By observing some system, many colleges might avoid those fearful *rushes* and daily *mobs.—American Journal of Education.*

LESSONS IN INDUSTRIAL DRAWING.—I.

MARY E. BRADLEY, Akron, Ohio.

IT IS not my purpose to write a series of articles upon the value, to the scholar, of the study of Industrial Drawing—that would be unnecessary, as the demand for this branch is not only great, but daily becoming greater, and *all* must sooner or later see the importance of it. My desire is to give such lessons

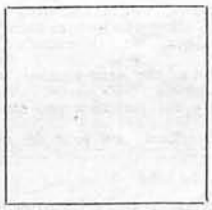
that the teachers who wish to take this work into the school-room and are at a loss how to begin may be aided thereby, and who, by spending ten or fifteen minutes a day or evening may give it to their scholars and thus lay a good foundation for future work. Children, large and small, like Drawing—it should be taught to them step by step and should be *always* Industrial.

See that scholars provide themselves with long sharp pencils and good rulers, and if they have no paper, use slates. By a very few minutes' work you can teach them the names of different lines—such as horizontal, vertical, oblique, and the names of these lines must be repeated over and over at every lesson, holding the ruler before the class and changing its position to suit the line you are describing. You must teach them how to measure the different parts of an inch etc.—and if your childern are very young, this will be no slight task. Besides, they must learn to tell the right from the left side—the upper and lower left and the upper and lower right corners of their slates or paper. Now tell them to draw upon the slate, beginning at top, a vertical line three inches in length, thus:

You draw the same line on blackboard making yours one foot. Now every one in the room place pencils on top of the line and draw three inches to the right.

Now all take up slates quietly, hold out at arms' length to see if lines are straight and clear, if not, correct. Now all ready, place pencils on the end of horizontal, draw down three inches.

Now measure across the bottom and all who find the width exactly three inches may draw the base line, those who have more or less than three inches correct their work.



This forms a square and will answer for the first lesson, your work on the board will be a square. In reviewing this lesson, give it as a dictation exercise, not drawing yourself. Let all who draw it well in the second lesson put it on the black-board and multiply the dimensions you have given them by four,—teach them what a square is—how many angles and what kind.

VIS VIVA—STRIKING FORCE.

Prof. Elliot Whipple, Westfield, Ill.

VARIOUS terms are used to *name* the power a moving body possesses to do work, or to penetrate against a constant resistance; vis viva, striking force, living force, penetrating power, etc. The existence in a moving body of some property differing from mere momentum, or the quantity of motion it can impart to another body at collision, is evident in many familiar phenomena; the destructive effects of a bullet whose momentum may be very insignificant, shooting a bullet through a pane of glass without shattering the glass, shooting a tallow candle through an inch board, etc.

Yet the authors of our text-books seem to have as many different conceptions of its *nature* and proper *measure* as names by which to express it.

Some make no mention of it, some confound it with momentum, some state that it varies as the product of the mass into the square of the velocity, some that it varies as the product of the mass into *the square of half the velocity*, and a few that it is measured by the product of the mass into *half the square of the velocity*.

To get at the heart of the matter, let us consider a case that may be divested of all non-essential circumstances.

The motion of a falling body acted upon by gravity alone is in accordance with simple and easily-understood laws. A body projected upward being resisted by the same force conforms to the same laws, the spaces being taken in the reverse order, and disregarding the varying resistance of the air and the variations of gravity arising from a variation in the distance from the center of the earth, we have an excellent illustration of the workings of vis viva.

It is our purpose to investigate the relation of velocity to vis viva, and the absolute measure of the latter.

Constructing a table according to the laws of falling bodies, we find that

TABLE I.

Times.	*Velocities.*	*Spaces.*
In one second the acquired velocity is	$32\frac{1}{6}$ and the space	$16\frac{1}{12}$.
In two seconds " " "	$64\frac{2}{6}$ " "	$64\frac{1}{3}$.
In three seconds " " "	$96\frac{3}{6}$ " "	$144\frac{3}{4}$.
In four seconds " " "	$128\frac{4}{6}$ " "	$257\frac{1}{3}$.
In five seconds " " "	$160\frac{5}{6}$ " "	$402\frac{1}{12}$.
etc.		

That is, a body projected upward with a velocity of $160\frac{5}{6}$ feet per second would rise to a height of $402\frac{1}{12}$ feet; if the velocity be $128\frac{4}{6}$, the space will be $257\frac{1}{3}$, and so on.

In this case we disregard *mass*, because any variation in the mass of the projectile produces the same variation in the work to be done that it does in the working force. We may simplify still more by discarding another element; namely, gravity; for it is the resisting force, and might be changed without affecting the vis-viva; for example, a body projected from the surface of the moon with a given velocity would have the same vis viva as if projected from the surface of the earth, but the resisting force, or gravity, being only about one-fourth as great, it would rise about four times as far; or a cannon ball shot from a cannon with a certain velocity would possess a certain amount of vis viva which would not be affected by the fact that it would penetrate much farther into a sand bank than into a granite rock.

By experiment it is known that the earth's attraction diminishes the velocity of a body, projected upward, $32\frac{1}{6}$ feet per second.

Dividing the successive velocities and spaces in Table I. by this constant, $32\frac{1}{6}$, we obtain:

TABLE II.

Velocities.	*Spaces.*
1	$\frac{1}{2}$
2	2
3	$4\frac{1}{2}$
4	8
5	$12\frac{1}{2}$
etc.	

In this we have the relation between velocity and space, or work performed, divested of all non-essentials; and here we may discover by *inspection* what that relation is.

Any number in the column of velocities squared and divided by *two* produces the corresponding number in the column of spaces; for instance, 1 squared and divided by two equals $\frac{1}{2}$; 3 squared and divided by two equals $4\frac{1}{2}$, 4 squared and divided by two gives 8, and so on.

Hence the *relation* of vis viva to velocity is half the square, or vis viva *varies* as half the square of the *velocity*. But vis viva also *varies* as the mass, hence its *measure* is the product of the two; that is, *vis viva equals the product of half the square of the velocity multiplied by the mass.*

A law that will always hold, whether the resistance be the gravity of the earth, the moon, or the sun; the resistance a cannon ball meets in penetrating a sand bank, a stone fort, or an iron-clad; or the friction of a train of cars on a rail-way track.

PARSING.

NOT that we deem this a matter of paramount importance, but a subject of secondary importance, rather, that we freely give our method of teaching written parsing.

Take the sentence, *The boy's father purchased a book which contained* Longfellow's Hiawatha." Have your pupils prepare on paper, with pen and ink, or lead pencil, (ink preferred), the parsing of all words italicised.

Model—"Boy's is a n., com., mas., 3d, sing., poss., possessing the noun "father," R. III. (Harvey).

"Father" is a n., com., mas., 3d, sing., nom., nom. to the verb "purchased," R. I.

"Book" is a n., com., neut., 3d, sing., obj., obj. of the verb "purchased," R VI.

"Which" is a pro., rel., antec. "book," neut., 3d, sing., nom., nom. to the verb "contained," R. I.

"Contained" is a verb, reg., trans., act., ind., past, 3d, sing., R. XIII.

"The" is an art., def., and limits the noun "father," R. XII.

No one should go to *extremes* in enforcing such models, otherwise he be-

comes a monomaniac on "Methods." To examine the MSS. of some would-be pedagogues, who of course want license to "keep school," all will agree that a *little* system is no dangerous thing.

DAYTON, INDIANA, Nov. 3, 1877.

SKETCHES OF LESSONS IN PRIMARY READING.—II.

Miss ISABEL LAWRENCE, State Normal School, Whitewater, Wis.

NOTE:—Lessons similar to the one on *cat* may now be given upon the words, *mat*, *rat*, *hat*, and *bat*, presenting objects when possible.

Have the children talk much in these lessons.

Have them in each, distinguish carefully between the real object, the picture, and the word.

SKETCH II.

Object,—To cultivate perception, conception, and language.

Point,—To teach matter.

Matter,—*A hat, a rat, a cat, a mat, a bat.*

Method,—*Tr.* (presents a hat). What is this?

Ch.—A hat.

Tr. prints on the board the words, *a hat*. *Ch.* pronounce them. At first, one child should recite at a time; then the whole class may recite together. Drill until they can give the correct pronunciation. If *Ch.* emphasize the *a*, refer to the object. What is this? *Ch.* A hat. *Tr.* (pointing to words). What are these words?

The *a* in *a hat* has nearly the sound of *a* in *liar*. It should never be emphasized by the children.

Similar work with remainder of matter.

Drill,—*Ch.* select these words from sentences on board, on charts, and in books.

Never, in after work, allow them to separate *a* from the following word. If separated, it is correctly pronounced as the *a* in *hate*, a pronunciation which we especially wish to avoid.

SKETCH III.

Object,—Same as in Sketch II.

Point,—To teach matter.

Matter,—*The hat, the cat, the rat, the bat.*

Method,—*Tr.* (presents a hat). What is this?

Ch. A hat.

Tr. What have I done with it?

Ch. You have placed it on the table.

Tr. What have I placed on the table?

Ch. The hat.

Tr. prints the words *the hat* upon the board. Drill in a similar manner as upon *a hat*.

Similar for remainder of matter.

The in *the hat* is pronounced like the third syllable in *nevertheless*. Never separate it from the following word, as then its correct pronunciation is the. Never allow it to be emphasized.

In reviews upon this work, be careful not to contrast *the hat* and *a hat*, *the mat* and *a mat*, as it will lead the children naturally to emphasize *the* and *a*.

PROFESSIONAL MEN FOR PROFESSIONAL OFFICES.

WE DO not believe that any one not a teacher, and not in the actual business of education, should be placed in the position of superintendent of schools. We look forward to the time when the law that made none but teachers eligible to the educational offices of the state will be restored, with the additional clause, that none but first grade and experienced teachers can occupy those offices. Then only will our public school system be in a condition to attain to the highest degree of efficiency. I am well aware that such a law is said not to be in accordance with the "genius of our liberty," but it is high time that the "genius of our liberty" should be made to conform to the conditions of government, wherein only competent men can reach the heads of departments, and only capable professional men can occupy professional offices. In no other educated country of the world is education so carelessly left to the tender mercies of the incompetent and professionally ignorant as in our own. It is no answer to point to the educational progress of our country as conpared with that of other countries. We can only compare it, as it is, with what we might reasonably conclude it would have been had its practical departments been placed in the skilled hands of professional direction. The results of such a comparison will be found differing as widely as the result of the mechanical skill required to erect a log cabin differs from the result of a mechanical skill that builds the astronomical instrument.—*Correspondence of Pacific School and Home Journal.*

RULE FOR EXTRACTING THE CUBE ROOT.

By Prof. WERDEN REYNOLDS.

FIRST SERIES.

1. Point off the given cube into periods of three figures each, beginning at units.

2. Find the greatest cube in the left-hand period, and take its root for the first root-figure. (See Note 1.)

3. Subtract this cube from the left-hand period, and to the remainder annex the next period for a dividend.

SECOND SERIES.

1. Take for a divisor three times the square of the part of the root already found, considered as tens.

2. Divide the dividend by this divisor, and take the quotient for the next root-figure. (See Note 2.)

3. Multiply the divisor by the last root-figure; also multiply three times the preceding part of the root considered as tens by the square of the same figure; also cube this figure; subtract the sum of these results from the dividend, and to the remainder annex the next period for a new dividend. (See Note 3.)

NOTE 1.

Roots —	1	2	3	4	5	6	7	8	9
Squares —	1	4	9	16	25	36	49	64	81
Cubes —	1	8	27	64	125	216	343	512	729

NOTE 2. As this quotient is only approximative, it will often be necessary to diminish it by one or two units.

NOTE 3. In the square root, both multiplications can be performed in one, by first putting the last root-figure in place of the unit zero of the divisor.

DIRECTION. Repeat the second series till sufficient accuracy is obtained, annexing periods of ciphers if necessary.

Prof. Reynolds has published the above in tabular form, including instructions for extracting the square root, which reduces the whole to a very simple process. ED.]

Publishers' Department.

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